

REPORT DOCUMENTATION PAGE				Form Approved OMB No. 0704-0188	
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1. REPORT DATE (DD-MM-YYYY) 04/03/2018		2. REPORT TYPE poster		3. DATES COVERED (From - To) 03/04/2018-03/08/2018	
4. TITLE AND SUBTITLE En Route Care: Advancing Trauma Care through Handoffs (E-CATCH) – A Prospective Trial to Improve Handoff Communication, Patient Safety, and Anticipate the Need for Life-Saving Medical Interventions.				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) Maddry, Joseph K, Maj				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) 59th Clinical Research Division 1100 Willford Hall Loop, Bldg 4430 JBSA-Lackland, TX 78236-9908 210-292-7141				8. PERFORMING ORGANIZATION REPORT NUMBER 17684	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) 59th Clinical Research Division 1100 Willford Hall Loop, Bldg 4430 JBSA-Lackland, TX 78236-9908 210-292-7141				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release. Distribution is unlimited.					
13. SUPPLEMENTARY NOTES Government Services Chapter of the American College of Emergency Physicians (GSACEP), Lake Tahoe, California, March 4-8, 2018					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			Clarice Longoria
					19b. TELEPHONE NUMBER (Include area code) 210-268-2201

En route Care: Advancing Trauma Care through Handoffs (E-CATCH) A prospective trial to improve handoff communication, patient safety, and anticipate the need for life-saving medical interventions

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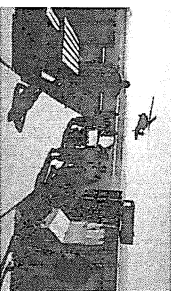
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Background

Hospital care is influenced by pre-hospital care and EMS patient handoff communication, however, handoff communication is often lacking. There is a need for definitive evidence regarding the effectiveness of handoff communication. We strived to characterize the care of patients transported by EMS to a single, military level 1 trauma center (SAMMC) and evaluate documentation as it impacts overall care.

Objective

Our aim was to determine which of the sixteen prehospital elements are communicated by EMS to trauma staff, and to identify which, if any, of these elements are associated with the need for life-saving interventions (LSI) within 24 hours of arrival to the trauma center.



Methods

- Data was abstracted from the medical records of patients transported by EMS and treated in the SAMMC Emergency Department.
- Data included the documentation provided by EMS, nursing report, call-in report, emergency room, and procedures done in the first 24 hours of care.
- Up to 2348 data entry fields for were collected for our study database.
- This is an interim, descriptive analysis of an ongoing study.

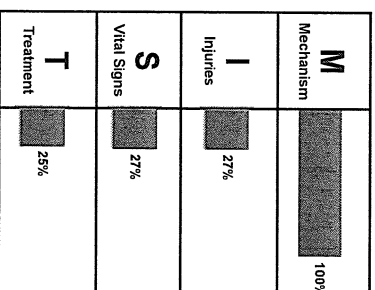


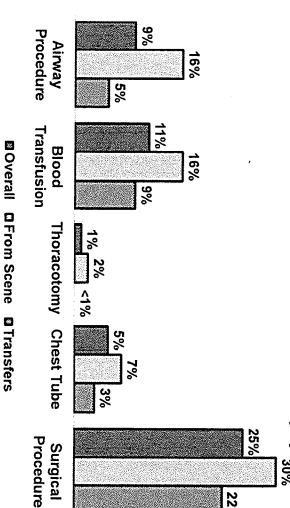
Figure 1: Percent Documentation per MIST component

Table 2: Percent Documentation per Prehospital Element		
16 Prehospital Elements associated with outcomes (assessed)	count	(%)
Prehospital hypotension	361	(92)
GCS Score	341	(87)
Patient Age	392	(99)
End tidal CO ₂ value	8	(2)
Pulse rate	360	(91)
Respiratory Rate	337	(86)
Oxygen saturation	289	(73)
Death of an occupant in the same compartment	334	(100)
Blood loss in the field	0	(100)
Mechanism of injury	365	(93)
Extraction time	4	(1)
Estimated crash speed	5	(1)
Anatomic location of injury	20	(5)
Preexisting disease	375	(95)
Prehospital intubation	105	(27)
Median Num. of Elements Documented per Record	40	(76.3%)

Table 2: Percent Documentation per Prehospital Element

Results

Figure 2: Procedures Performed within 24-hrs from Injury



- Surgical procedures and blood transfusions were associated with a decreased number of documented pre-hospital elements.
- Respiratory rate, extrication time, and anatomical location were associated (p<0.001) with having at least one LSI within 24 hours.
- Mortality rate for patients brought from scene was 5%, and <1% for patients transferred from another facility.

Limitations

- Data was collected retrospectively
- Subjectivity despite trained abstractors
- Data missing or unavailable

Conclusions

In this study, there was limited documentation reflective of care provided prior to arrival to the SAMMC ED. Three of the 16 prehospital elements were associated with having an LSI performed within 24 hours of injury.

Acknowledgements

DOD Joint Program Committee (JPC6); Air Force En route Care Research Center Team, SAMMC Emergency Department; BAMC Trauma Registry

This study was conducted under a protocol reviewed and approved by the U.S. Army Medical Research and Materiel Command Institutional Review Board and in accordance with the approved protocol. The opinions or assertions contained herein are the private views of the author and are not to be construed as official or as reflecting the views of the Department of the Army, the Department of the Air Force, or Department of Defense.

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